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PENNSYLVANIA BUSINESS SURVEY

College of Business Administration The Pennsylvania State University **January 1987**

ECONOMY FIGHTING TO KEEP PACE

Economic activity in the Commonwealth continues to be strong enough to avert any significant downturn, but that doesn't mean that the current situation is all that rosy, either. **November brought with it a continuation of recent trends: problems in the Commonwealth's factories, a fair amount of strength in the nonmanufacturing sector, and weakness in the employment and labor force indicators.**

Caution should be exercised in examining trends in Pennsylvania's manufacturing industries. Job losses have been fairly continuous for slightly more than two years. As pointed out in last month's *Survey*, these declines have been spread across most industries, albeit unevenly. The number of positions in these establishments fell by a seasonally adjusted 2,200 in November to a record low of 1.03 million.

Talk of any improvement in the manufacturing job picture appears to be unfounded. Indeed, even talk of a mere bottoming out in the job performance of these industries seems to be a bit premature. Manufacturing job levels have remained 3.5-4 percent below a year ago throughout 1986.

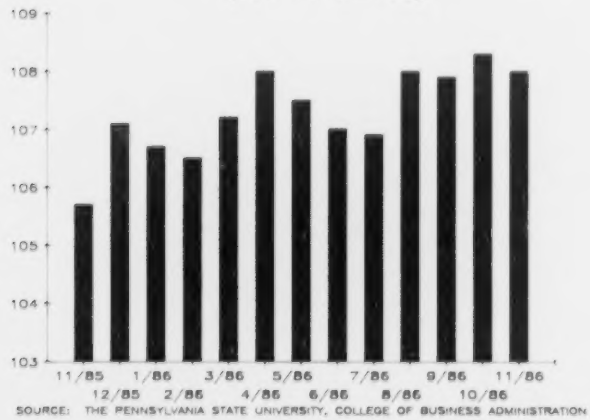
A December 4, 1986 *Wall Street Journal* article examined the relationship between manufacturing jobs and output at the national level. In that timely data for Pennsylvania are not available, we can only assume that the trends highlighted in the article are at least similar to those in the Commonwealth. It was pointed out that while the job performance of the manufacturing sector has been dismal, output has been on the rise. Hence, if one focuses on the production/output data, manufacturing's recent performance appears to be much more encouraging than if one concentrates on the employment situation. It appears that, **in an effort to be more competitive, manufacturers, in general, are more efficient and now have the ability to produce more goods with fewer workers**. As a result, unless output surges, which is unlikely, it will be hard to realize any significant job gains in the manufacturing sector.

Fortunately, **the Commonwealth's nonmanufacturing industries again stepped forward to brighten the job picture**. All told, there were a record-high 3.81 million jobs in these establishments during November after adjustment for normal seasonal variations. Once again, the service-producing industries (all nonmanufacturing industries except construction and mining) led the way.

These job gains in the nonmanufacturing sector are certainly welcome news. However, a major issue currently being debated concerns the "quality" of these jobs. **Many analysts are concerned that as our economy becomes more dependent on these relatively low-paying jobs, our standard of living will deteriorate.** Although there is some merit to this argument, it is hard to draw any firm conclusions for the Commonwealth, again due to a lack of timely data.

As in the nation as a whole, construction activity in Pennsylvania may be leveling off. Employment in this industry has held steady at about 205,000, seasonally adjusted, for the last five months. Construction contract values have declined in two of the last three months. For November, contract values stood at a seasonally adjusted $622.6 million, down from $692 million in October. Declines occurred in the residential and nonbuilding categories while there was a gain in the nonresidential sector. Most experts are calling for a fairly stable year for construction in 1987. While this might not seem too encouraging relative to the strong advances registered in 1986, this would still leave construction activity at a fairly high level.

PENNSYLVANIA COMPOSITE INDEX
OF LEADING INDICATORS
(Jan 1972=100)



SOURCE: THE PENNSYLVANIA STATE UNIVERSITY, COLLEGE OF BUSINESS ADMINISTRATION

Pennsylvania Composite Indexes

	Index		Percentage Change from Preceding Month	
	Leading	*Coincident*	*Leading*	*Coincident*
March 1986	107.2	86.8	0.7	0.5
April	108.0	86.6	0.7	-0.2
May	107.5	86.1	-0.5	-0.6
June	107.0	85.5	-0.5	-0.7
July	106.9	85.5	-0.1	0.0
August	108.0	85.6	1.0	0.1
September	107.9	85.3	-0.1	-0.4
October	108.3	84.8	0.4	-0.6
November	108.0	84.3	-0.3	-0.6

The end result of November's job trends in Pennsylvania's nonagricultural (manufacturing and nonmanufacturing) industries was a gain of 10,000 jobs to a seasonally adjusted 4.85 million, a record-high. During the first 11 months of 1986, nonagricultural job levels were up 1.8 percent in the Commonwealth compared to 2.6 percent in the nation.

Despite the continued strength in nonmanufacturing, **resident employment in Pennsylvania dipped for the third straight month in November**. (See the October 1986 issue of the *Survey* for a discussion of the differences between the establishment job and resident employment data.) After a strong first quarter, employment has been on a fairly steady downward trend. In fact, the seasonally adjusted 5.14 million Pennsylvanians counted as employed in November represent a low for the first 11 months of 1986.

Hence, the decline in unemployment during November, from 358,000 to 346,000 residents, is somewhat misleading, as is the 0.1 percentage point drop in the jobless rate to a seasonally adjusted 6.3 percent. As was the case in October, the improvement in the unemployment situation was the result of a net outflow of residents from the labor force rather than any gains in employment.

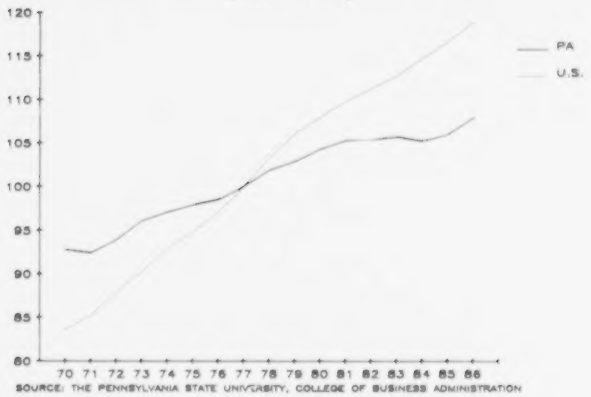
Recent behavior in the index of coincident indicators suggests that Pennsylvania's economy is operating on a sluggish path. November saw a decline of 0.6 percent in the index, the third consecutive drop. Although this should

Economic Activity in Pennsylvania	UNADJUSTED DATA			SEASONALLY ADJUSTED DATA			SEASONALLY ADJUSTED INDEXES (1977 = 100)		
	1986		1985	1986		1985	1986		1985
	Oct.	*Nov.*	*Nov.*	*Oct.*	*Nov.*	*Nov.*	*Oct.*	*Nov.*	*Nov.*
Pennsylvania Industries									
All nonagricultural industries									
No. of wage and salary jobs (thous.)[1]	4,893*	4,907	4,830	4,836*	4,846	4,779	105.9*	106.1	104.7
Nonmanufacturing									
No. of wage and salary jobs (thous.)	3,843*	3,862	3,753	3,801*	3,813	3,706	117.9*	118.3	115.0
Mining	34*	34	36	34*	35	36	70.6*	72.1	74.4
Contract construction	221	215	206	205	205	197	111.6	111.6	107.0
Transportation	141	142	140	137	138	137	84.8	86.0	85.1
Public Utilities	101	102	101	101	102	101	100.5	100.8	99.9
Wholesale trade	264	266	258	263	265	257	118.4	119.3	115.8
Retail trade	869	884	852	861	864	832	120.1	120.4	116.0
Finance, insurance & real estate	275	275	266	275	276	267	126.5	126.9	122.7
Service & miscellaneous	1,257	1,253	1,201	1,245	1,248	1,197	144.4	144.7	138.7
Federal government	136*	137	138	138*	138	139	107.3*	107.6	108.3
State & local government	546	555	556	542	544	545	93.0	93.3	93.5
Manufacturing									
No. of wage and salary jobs (thous.)	1,037*	1,034	1,074	1,035*	1,033	1,073	77.1*	76.9	79.9
Durable goods	582*	580	617	582*	580	617	71.9*	71.6	76.2
Nondurable goods	455	454	457	452	452	455	84.9	84.9	85.5
Ave. wkly. hrs. worked by prod. workers	40.3	40.8	40.5	40.3	40.4	40.1	102.1*	102.1	101.5
Total wkly. person-hours worked (mils.)	28.2*	28.4	29.5	28.1*	28.0	29.1	73.1*	73.0	75.9
Total wkly. payroll (mil. dols.)	274.0*	277.7	285.7	274.6*	273.6	281.5	122.2*	121.8	125.3
Steel production (thousand tons)	616	554	982	n.a.	n.a.	n.a.	31.1	28.3	50.1
Industrial electric power sales (mil. kwh)	3,471	3,193	3,344	3,464	3,285	3,477	93.8	89.0	94.1
Mining									
Anthracite coal (thous. net tons)	431	373	321	372	341	297	76.1	69.7	60.7
Bituminous coal (thous. net tons)	5,184	n.a.	5,972†	4,667	n.a.	5,342†	66.2	n.a.	75.7†
Construction contracts awarded (mil. dols.)									
Total	736.5	567.0	546.7*	692.0	622.6	586.0*	215.1	193.5	182.1*
Residential building	334.4	240.1	199.1*	283.1	270.1	220.7*	201.2	191.9	156.8*
Nonresidential building	245.7	254.2	209.1*	186.0	269.9	211.5*	171.4	248.8	195.0*
Nonbuilding (utilities and public works)	156.4	72.7	138.5*	222.9	82.6	153.8*	307.5	113.9	212.2*
Employment of Pennsylvania Residents									
Employed, no. of persons (thous.)	5,289	5,229	5,073	5,196	5,140	4,982	108.1	107.0	103.7
Unemployed									
No. of persons (thous.)	322	332	416	357	346	431	89.1	86.4	107.5
Rate (percentage of labor force)	5.7	6.0	7.6						
Rate, seasonally adjusted				6.4	6.3	8.1			
Civilian labor force, no. of persons (thous.)	5,611	5,561	5,489	5,554	5,486	5,413	106.7	105.4	104.0
Initial claims for unemployment benefits	94,980	97,352	114,985	97,040	102,136	116,452	67.8	71.3	81.3

Consumer Prices, all items	Urban Indexes (1967 = 100)			Percentage Change	
	1986		1985	*Month Ago*	*Year Ago*
	Oct.	*Nov.*	*Nov.*		
U.S. city average	330.5	330.8	326.6	+0.1	+1.3
Philadelphia	324.7	324.1	318.8	−0.2	+1.7
Pittsburgh	331.8	n.a.	328.4†	n.a.	+1.0
Northeast PA	n.a.	313.5	310.6	n.a.	+0.9

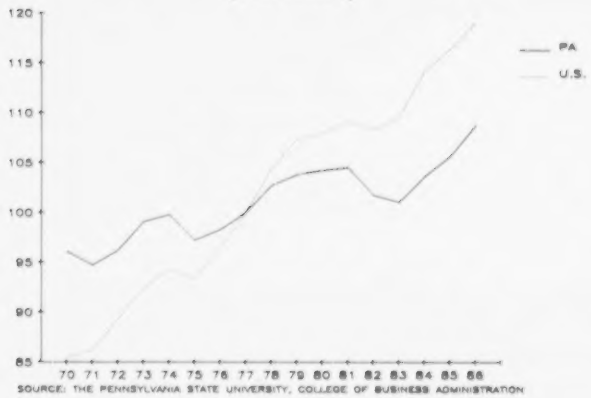
NOTES: Data on employment, payrolls and hours have been revised to first quarter 1985 benchmarks.
[1] Total includes workers on strike. * = figure revised † = figure for October 1985 n.a. = data not available
SOURCES AND DEFINITIONS OF DATA ARE AVAILABLE ON REQUEST.

RESIDENT LABOR FORCE, U.S. AND PA
(1977=100)



SOURCE: THE PENNSYLVANIA STATE UNIVERSITY, COLLEGE OF BUSINESS ADMINISTRATION

RESIDENT EMPLOYMENT, U.S. AND PA
(1977=100)



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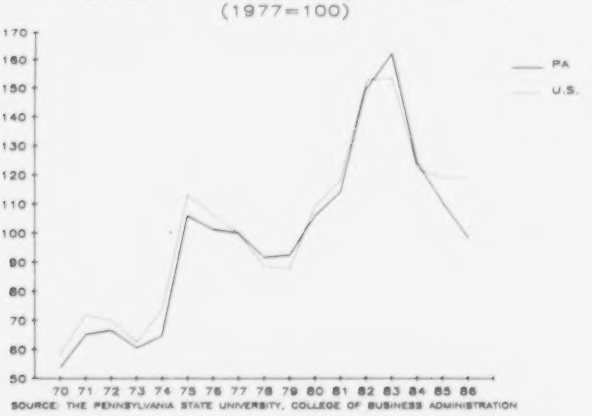
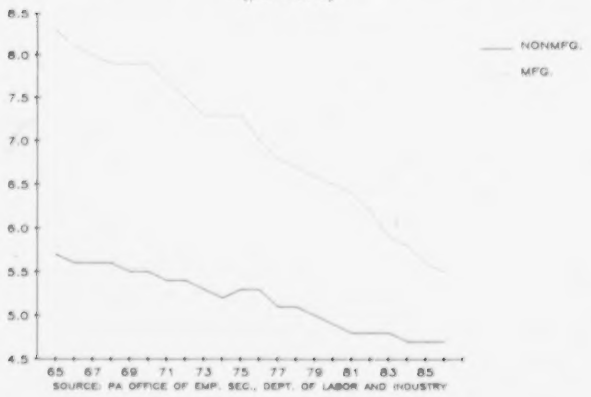


SOURCE: THE PENNSYLVANIA STATE UNIVERSITY, COLLEGE OF BUSINESS ADMINISTRATION

PA'S SHARE OF U.S. NONAGRICULTURAL JOBS
(percent)



SOURCE: PA OFFICE OF EMP. SEC., DEPT. OF LABOR AND INDUSTRY

not be regarded as a perfect measure of current economic activity, it does provide a good general picture of the economy. **Based on trends in the leading index, it appears that these trends will continue.** The index has see-sawed throughout the year and fell 0.3 percent in November.

Much is made of Pennsylvania's standing relative to the nation. Through the first 11 months of 1986, Pennsylvania's performance on the employment/unemployment front stacked up pretty well compared to the nation. However, as the accompanying charts show, **Pennsylvania has a lot of ground to make up relative to the U.S. in terms of labor force and employment growth**. The Commonwealth has seen its position relative to the U.S. deteriorate over the past several years. Surprisingly, Pennsylvania has performed fairly well in terms of the unemployment picture. Part of our strong performance, though, is due to the weakness in the labor force data.

The situation in the State's nonagricultural establishments also gives rise to some concern. **Despite the strength in nonmanufacturing, Pennsylvania has accounted for a smaller and smaller share of U.S. jobs in these industries over the past several years. Much the same is true in manufacturing**, where the problems in Pennsylvania appear to be more severe than in the nation. Clearly, most economic indicators suggest that there is considerable room for improvement over Pennsylvania's overall economic performance relative to the nation's during recent years.

— William D. Anderson

Seasonally Adjusted Data

In nearly every issue of the *Survey*, a great deal of attention is given to "seasonally adjusted" data. Just what is meant by this term?

When data is seasonally adjusted, normal seasonal variations are removed from the series. This provides a better indication of the underlying strength (or weakness) of the variable in question. For instance, construction activity is much stronger in the summer relative to the winter months.

A comparison of, say, construction jobs in these two periods will not provide a true indication of underlying trends in the industry since the data is distorted by seasonal factors. The seasonal adjustment technique removes these distortions.

A numerical example, shown in the accompanying table, should help illustrate this concept. Retailers in Pennsylvania typically add more workers during the Christmas shopping season as business picks up. However, many of these positions are seasonal in nature and the workers will be let go shortly thereafter. Hence, a comparison of retail trade job data in November and December with that for other months will probably not provide an adequate representation of underlying trends.

Over the past decade, it appears that Pennsylvania retailers have added in excess of 10,000 positions each November for seasonal reasons (the "Seas. change" column). Most were hired to accomodate the crunch of Christmas shoppers. If the actual change in retail trade job levels exceeds this normal seasonal change, a "seasonally adjusted" increase occurs and it may be concluded that retail trade job growth is stronger than normal. If the actual gain is less than the normal change the results are just the opposite. For instance, in applying the seasonal adjustment technique to the data, it is estimated that 12,400 positions were added in Pennsylvania retail establishments this past November for seasonal reasons. Given that the actual number of jobs rose by 14,800, from 869,000 in October to 883,800 in November, this resulted in a seasonally adjusted gain of 2,400. In other words, the increase in retail trade jobs during November was 2,400 more than usual for that time of year.

Derivation of seasonally adjusted PA retail trade jobs data (in thous.)

	Retail trade jobs (unadjusted)		Abs. change	Seas. change	Seas. adj. change	Retail trade jobs (adjusted)	
	Oct.	Nov.				Oct.	Nov.
1975	683.9	695.3	11.4	10.2	1.2	676.6	677.8
1976	710.1	720.8	10.7	10.2	0.5	702.4	702.9
1977	736.6	755.0	18.4	10.5	7.9	729.0	736.9
1978	766.5	777.8	11.3	10.6	0.7	758.9	759.6
1979	757.7	771.1	13.4	10.7	2.7	750.3	753.0
1980	746.9	757.4	10.5	10.7	-0.2	739.5	739.3
1981	751.0	758.0	7.0	10.6	-3.6	743.5	739.9
1982	745.7	756.6	10.9	10.6	0.3	738.0	738.3
1983	770.0	782.5	12.5	11.0	1.5	762.2	763.7
1984	801.8	819.8	18.0	11.7	6.3	794.1	800.4
1985	833.6	851.9	18.3	12.1	6.2	825.9	832.1
1986	869.0	883.8	14.8	12.4	2.4	861.3	863.7

Source: PA Dept. of Labor and Industry; PA State University

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Division of Research of the
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The Pennsylvania State University
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